National Institute of Environmental Health Sciences

Regional climate modeling activities in relation to the CLAVIER project

Author(s): Jacob D, Kotova L, Lorenz P, Moseley C, Pfeifer S
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Abstract:

Observational records show that the global climate is changing and these changes are visible in the Central and Eastern European Countries (CEEC). Certainly negative impacts of climate change will involve significant economic losses in several regions of Europe, while others may bring health or welfare problems somewhere else. Within the EU funded project CLAVIER (Climate ChAnge and Variability: Impact on Central and Eastern EURope) three representative CEEC are Studied in detail: Hungary, Romania, and Bulgaria. Researchers from 6 countries and different disciplines identify linkages between climate change and its impact on weather patterns with consequences oil air Pollution, extreme events, and water resources. Furthermore, an evaluation of the economic impact on agriculture, tourism, energy supply, and public sector will be conducted, CLAVIER focuses oil ongoing and future climate changes in CEEC using measurements and existing regional scenarios to determine possible developments of the climate and to address related uncertainties. Three regional climate models are used to simulate the climate evolution in CEEC for the period 1951 to 2050, the future regional climate projection being the first half of the 21st century. The issue of climate change uncertainties is addressed through the multi-model and multi-scenario ensemble approach. As a result, CLAVIER establishes a large data base, tools, and methodologies, which contribute to reasonable planning for a successful development of society and economy in CEEC under climate change conditions. Current regional climate projections show a strong warming and drying during the summer months, which seems partly due to a systematic error in model simulations. Detailed validation of the CLAVIER simulations, which goes much beyond this paper, is needed, and the results have to be related to possible climate changes projected for the region in future simulations.

Source: http://www.met.hu/en/omsz/kiadvanyok/idojaras/index.php?idEuro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin)178

Resource Description

Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES), Other Climate Scenario

Special Report on Emissions Scenarios (SRES) Scenario: SRES A1, SRES A2, SRES B1, SRES B2

Other Climate Scenario: REMO Model

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Ecosystem Changes, Extreme Weather Event, Food/Water Security, Food/Water Security, Precipitation, Temperature

Extreme Weather Event: Drought, Flooding

Food/Water Security: Agricultural Productivity

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Region

Other European Region: Central and Eastern Europe

Health Impact:

specification of health effect or disease related to climate change exposure

General Health Impact

Model/Methodology:

type of model used or methodology development is a focus of resource

Methodology

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Long-Term (>50 years)

Vulnerability/Impact Assessment:

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content